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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,678	01/18/2002	James W. Moore	5557.P007	5448

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EXAMINER
TRAIL, ALLYSON NEEL

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/052,678	MOORE ET AL.	
	Examiner	Art Unit	
	Allyson N Trail	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-28 and 46-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-26,46,47,50-55 and 58-61* is/are rejected.

7)☒ Claim(s) *27, 28, 48, 49, 56, 57* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/21/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Amendment

1. Receipt is acknowledged of the Amendment filed October 1, 2004.

Remarks

2. Claims 18, 19, 46, 51, 54, and 59 have been amended to overcome the previous prior art rejection (Bjorner et al 6,236,735) given in the last Office Action. It is believed that Barnes et al in combination with Gerety et al teaches the subject matter of amended independent claims 18, 25, 46, 51, 54, and 59. The indicated allowability of claims 26, 47, 50, 55, and 58 from previous Office Action is withdrawn in view of recognition that Barnes et al in combination with Gerety et al and in further view of Sawaki et al teaches the subject matter of claims 26, 47, 50, 55, and 58. The delay in citation of the above art is regretted. Rejections based on the above identified prior art follows. Therefore, this action is not made Final.

Claim Objections

3. Claims 56-58 are objected to because of the following informalities:

Claims 56-58 depend directly from claim 54, however each claims include the phase, "the user-specified criteria". "User-specified criteria" is not a limitation disclosed in claim 54, however it is disclosed in claim 55. Either claims 56-58 should depend on claim 55 or each of the claims should be amended to include the claim language --a user-specified criteria--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 18, 46, 51-54, and 59-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnet et al (6,502,750) in view of Gerety et al (6,560,741).

Barnet et al teaches the following in regards to claims 18, 46, 51, 53, 54, and 59:

Figure 2 shows an object detector 212, two labeled (OMR symbol) objects 204 and 206 traveling at a velocity V_O, and a laser scanner 202. The object detector 212 transmits energy 213, such as optical energy, and receives reflected energy from an object in the path of the transmitted energy to detect the labeled objects 204, 206 as they move past the object detector. In operation, when the object detector 212 detects an object to be scanned it applies the TRIG signal to the laser scanner 202 which, in response to the TRIG signal, reads (i.e., scans and decodes) the OMR symbol affixed to the corresponding object.

Barnet et al fails to teach the symbol being two-dimensional, capturing multiple images of the symbol with a CMOS image sensor, and processing the multiple images to identify and read the code affixed to the object, wherein the processing includes a memory for storing each image so that the images can be combined for decoding and displayed.

Gerety et al teaches capturing multiple two-dimensional images with a CMOS contact image sensor and processing the multiple images to identify and read a code, which is affixed to an object.

Specifically, Gerety et al's method includes capturing multiple two-dimensional images of a two-dimensional printed code using a two-dimensional image sensor. Each of the two-dimensional images captured represents only a portion of the two-dimensional printed code, and the multiple images are stitched together into a single image representative of the entire two-dimensional printed code. Multiple overlapping "snapshot" images are captured via the two-dimensional image sensor as the two-dimensional printed code is swept by. The image-to-image overlap (boundary correlation) is analyzed in software and the images of "fused" to produce a single, coherent image. This technique has been employed previously with "hand scanner" devices such as the "Logitech ScanMan." In order to stitch multiple two-dimensional images together each image must be stored in the memory 530. Also disclosed by Gerety et al is a display unit 430. (See columns 12 and 13).

In view of Gerety et al's teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to combine Barnes et al's method of scanning a barcode in response to a trigger signal sent from an object detector detecting a traveling barcode with Gerety et al's method of decoding two-dimensional codes. The method taught by Barnes et al is used to ensure that an accurate decoding of barcodes on objects moving on a conveyor belt is achieved. Barnes et al's method could easily be applied to decoding two-dimensional barcodes

using the "stitching" processing and using a CMOS image sensor taught by Gerety et al. As disclosed by Gerety et al one would be motivated to use a two-dimensional barcode for the larger information storage capacity the two-dimensional barcode provides. Additionally, the "stitching" method is often used in order to read a barcode that is too large for one image to capture. Again one would be motivated to use the "stitching" method in order to use larger two-dimensional barcodes that are capable of storing large amount of information.

6. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnet et al (6,502,750) in combination with Gerety et al (6,560,741) and in further view of Kennedy et al (5,515,962).

Barnet et al's teachings in combination with the teachings of Gerety et al are discussed above.

The combination however fails to teach adjusting the parameters of the conveyor belt, which include delays and speed.

Kennedy et al teaches the following in regards to claims 19-24:

"The conveyor belt 40 is driven via the DC motor 22, the speed of which may be controlled as by a programmable logic controller (PLC) 52 which provides a control panel 54 for allowing a user to interface therewith. The DC motor 22 provides a torque output which is reduced at a ratio of 30:1 by the reducer 24, which is typically a Dayton reducer. The reducer 24 provides the reduced torque output at the input sprocket 26 which is linked to the idler sprocket 28 and the output sprocket 32 by the drive chain 34. The tension in the drive chain 34 is adjusted by the chain tensioner 30, which typically

may be a Rosta tensioner. The output sprocket 32 is coupled directly to the drive end spindle 36 so as to drive the conveyor belt 40. It should be noted that the control panel 54 allows a user to adjust the conveying speed of the conveyor belt 40." (Col. 4,lines 43-57).

In view of Kennedy et al's teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ the user-specified intervals taught by Kennedy et al to the teachings of Barnet et al in combination Gerety et al. One would be motivated to do so in order to eliminate the problem of packages traveling along a conveyor belt too quickly and not being able to be clearly decoded. Both the user-specified intervals help to avoid this problem.

7. Claims 25, 26, 47, 50, 55, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnet et al (6,502,750) in combination with Gerety et al (6,560,741) and in further view of Zlotnick et al (5,737,438).

Barnet et al's teachings in combination with the teachings of Gerety et al are discussed above.

The combination however fails to teach using two or more sources configured to capture the multiple images.

Sawaki et al teaches the following in regards to claim 25:

"There is also an advantage that a user can choose between a scanner and a camera depending on the images to be obtained." (Col. 25,lines 60-62).

In view of Swaki et al's teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to have two separate image

capturing devices. Having two separate image capturing devices allows for a better chance of capturing the barcode label as it travels down the conveyor belt. One would be motivated to choose and switch between two separate image capturing devices to ensure the most accurate reading of the barcode is achieved.

Allowable Subject Matter

8. Claims 27, 28, 48, 49, 56, and 57 are objected to as being dependent upon a rejected base claim (claims 56 and 57 are also objected to above), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's for allowance: Although Barnes et al in combination with Gerety et al teach a method of capturing multiple images of packages moving along a conveyer belt and combining the images in order to decode the barcode and the combination of Barnes et al, Gerety et al, and Sawaki et al teach a user-specifying which image capturing device to use, the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific features of the present claimed invention, such instructions to switch from one source to another source in response to an occurrence of user-specified criteria, wherein the user-specified data criteria includes an image-capture-quantity parameter and a time parameter. Moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hess et al (5,510,603).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**allyson.trail@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
December 22, 2004

JARED J. FUREMAN
PRIMARY EXAMINER